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Environmental Management Recovery Act
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Recovery Act Funds $24 Million in Technology Projects

RICHLAND, Wash. – An estimated $24 million in American Recovery and Reinvestment Act funds is bringing cutting-edge technology to the DOE Office of River Protection's (ORP) mission of retrieving and treating chemical and radioactive tank waste.

The technology at the Hanford Site involves a remotely operated arm to clean tank waste and a system to improve volume reduction of tank waste. Similar technological advances at Recovery Act-funded sites working to clean up nuclear waste throughout the nation are featured in the 14th issue of *Recovery News,* the EM Recovery Act newsletter, due out in early July. Access the newsletter at www.em.doe.gov/emrecovery.

Tank waste at Hanford Site, beware! There's no escaping the long arm of the Mobile Arm Retrieval System (MARS), an innovative arm that aims to improve the efficiency of tank waste retrieval.

The Mobile Arm Retrieval System, pictured here, will help Hanford Site workers remove waste from aging single-shell tanks more efficiently.

With more than $11 million in Recovery Act funds, ORP is developing a key vacuum component of MARS to be deployed by the end of next year.

MARS consists of high-pressure water tools mounted on the end of a telescoping arm for cleaning waste.

The Wiped Film Evaporator is being developed for volume reduction of Hanford Site's tank waste.

Installed on a mast at the tank's center, the mobile arm reaches nooks and crannies, maximizing waste retrieval. Tank conditions and waste chemistry often defy conventional approaches, requiring a variety of new tools and techniques.

In another project, ORP is drawing on $13 million in Recovery Act funds to develop the portable Wiped Film Evaporator (WFE), which will help reduce the volume of the 53 million gallons of waste stored in 177 underground tanks at Hanford Site.

A number of older single-shell tanks have leaked as much as one million gallons of waste into surrounding soil. Crews are transferring waste from those tanks into newer safer double-shell tanks. The single-shell tanks outnumber the double-shell tanks by a ratio of 5 to 1, so storage space is limited. The WFE will help solve that problem by reducing the volume and removing excess water from waste. Its technology is simple: a high-pressure vacuum reduces the boiling point of liquid waste. A thin film of the waste is distributed, and water is evaporated off. Plans call for the WFE to be in operation by the end of 2011.

"In the past, there were parts of the tank where we've not been able to reach the waste effectively. This new technology in the MARS will allow us to get to those other quadrants of the tank."
-- Project Manager Scott Saunders